



COUNTY OF SAN DIEGO  
**Great Government Through the General Management System – Quality, Timeliness, Value**  
DEPARTMENT OF HUMAN RESOURCES

CLASS SPECIFICATION

CLASSIFIED

ELECTRICAL SPECIALIST

Class No. 003677

■ CLASSIFICATION PURPOSE

To oversee and maintain electrical and electronic systems and equipment at County sewerage facilities; to provide technical guidance; to advise and train staff on electrical and instrumentation devices; and to perform related work.

■ DISTINGUISHING CHARACTERISTICS

The Electrical Specialist class is a single position, advanced electrician class responsible for ensuring the continued operation all electrical/electronic systems, equipment and devices supporting county water reclamation plants, sewage treatment plants, pumping and metering stations. This class is also responsible for providing technical information, hands on training, guidance and oversight to other classes supporting sewerage operations, such as wastewater plant operators, equipment operators, maintenance and construction workers, etc. Electrical Specialist is distinguished from the Electrician class in that its primary purpose is to serve as an electrical and instrumentation systems expert as opposed to performing electrical installation, maintenance and repair work.

■ FUNCTIONS

**The examples of functions listed in the class specification(s) are representative but not necessarily exhaustive or descriptive of any one position in the class(es). Management is not precluded from assigning other related functions not listed herein if such duties are a logical assignment for the position.**

Essential Functions:

1. Provides technical advice and training on the operation, maintenance, and construction of electrical, electronic, mechanical, pneumatic and hydraulic control systems and instruments.
2. Visits, tours and evaluates sewage facility equipment.
3. Performs difficult electrical inspections; installs and repairs electrical systems, apparatus and electrical and electronic components of sewerage system machinery and equipment following electrical codes, manuals, schematic diagrams, blueprints, and other specifications.
4. Uses, maintains, calibrates and repairs pneumatic and electronic testing and measuring instruments such as oscilloscopes, signal generators, potentiometers, ammeters, frequency counters, voltmeters, and manometers.
5. Repairs electronic equipment such as computers, industrial controls, telemeter control systems and servomechanisms, following blueprints and manufactures' specifications.
6. Examines construction plans and specifications, and recommends any changes necessary to comply with electrical codes.
7. Provides information concerning electrical requirements.
8. Prepare reports.
9. Provides responsive, high quality service to County employees, representatives of outside agencies and members of the public by providing accurate, complete and up-to-date information, in a courteous, efficient and timely manner.

■ KNOWLEDGE, SKILLS AND ABILITIES

Knowledge of:

- Principles and uses of electronic, electrical, pneumatic, hydraulic, and mechanical control systems and instruments.
- Precision testing equipment used in servicing and calibrating electronic, electrical, and related components.
- Methods of installing, calibrating, trouble shooting and repairing control systems and instruments.

- The operation of electromotive and electric metering devices, including telemetry systems, variable speed drive units, variable frequency drive units, and instrumentation of devices required in the operation and maintenance of a water pollution control facility pumping and metering stations.
- Inspection methods appropriate for a wide variety of electrical, electronic and computerized control equipment.
- Preventive maintenance requirements related to electrical and electronic equipment, apparatus and devices.
- Electrical and fire codes.
- Occupational hazards and safety practices.
- County customer service objectives and strategies.

#### Skills and Abilities to:

- Diagnose electrical equipment malfunctions.
- Disassemble, repair, and maintain a wide variety of electromotive and monitoring devices.
- Schedule and oversee preventive maintenance and inspection activities in a water pollution control facility pumping and metering station.
- Supervise and train personnel in installation, construction and maintenance of electrical and electronic equipment.
- Communicate effectively orally and in writing.
- Establish effective working relationships with management, employees, employee representatives and the public representing diverse cultures and backgrounds.
- Treat County employees, representatives of outside agencies and members of the public with courtesy and respect.
- Assess the customer's immediate needs and ensure customer's receipt of needed services through personal service or referral.
- Exercise appropriate judgment in answering questions and releasing information; analyze and project consequences of decisions and/or recommendations.

#### ■ EDUCATION/EXPERIENCE

Education, training, and/or experience that demonstrate possession of the knowledge, skills, and abilities listed above. An example of qualifying education/experience is: at least four (4) years of experience as a journey level electrician which included responsibility for the planning, installation, operation and maintenance of electrical control and instrumentation systems; OR possession of an Electrical Contractor's License issued by the State of California.

#### ■ ESSENTIAL PHYSICAL CHARACTERISTICS

**The physical characteristics described here are representative of those that must be met by an employee to successfully perform the essential functions of the classification(s). Reasonable accommodation may be made to enable an individual with qualified disabilities to perform the essential functions of a job, on a case-by-case basis.**

Incumbents in these classifications are required to make precise arm-hand positioning movements when working with electrical hand tools; continuous, repetitive arm-hand movements and fine, highly controlled muscular movements while operating equipment. Skillful, controlled manipulations of small objects; frequent use of arms above shoulder level; move electrical components or fixtures weighing up to 50 pounds, and occasionally 70 pounds; discriminate among colors or match colors of electrical wires; sit for extended periods of time with the ability to move about at will when working on ground level electrical facilities.

#### ■ SPECIAL NOTES, LICENSES, OR REQUIREMENTS

##### License

A valid California class C driver's license, which must be maintained throughout employment in this class, is required at time of appointment, or the ability to arrange necessary and timely transportation for field travel. Employees in this class may be required to use their own vehicle.

##### Certification/Registration

Possession of an Electrical Contractor's License issued by the State of California must be presented at the time of application, and must be maintained throughout employment.

##### Working Conditions

Required to work on high trucks, poles, and ceilings. May be exposed to heat, cramped workspaces, adverse weather, noxious fumes, and explosive gases. Subject to emergency work on a 24-hour, call back basis.

#### Background Investigation

Must have a reputation for honesty and trustworthiness. Misdemeanor and/or felony convictions may be disqualifying depending on type, number, severity, and recency. Prior to appointment, candidates will be subject to a background investigation.

#### Probationary Period

Incumbent appointed to permanent position in this class shall serve a probationary period of 6 months (Civil Service Rule 4.2.5).

**New: September 16, 1967**  
**Revised: January 19, 1996**  
**Reviewed: Spring 2004**  
**Revised: June 2005**